

FORECAST FOR SUCCESS - U.S. ARMY MEDICAL SERVICE CORPS OFFICERS

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What behaviors and competencies must be demonstrated to achieve successful careers as leaders and officers in the 21st Century? There have been several forecasts of the future skills, knowledge, and abilities required by senior medical leadership (Berger & Kurtz, 1991; Berger & Sudman, 1993; Coile, 1990; Hudak, Brooke, Finstuen, & Riley, 1993; Hudak, Finstuen, & Brooke, 1994; Reagan, 1990; Duperrior & Finstuen, 1995). The Army and Navy are developing military executive management education programs to assure military medical leaders will have the necessary behaviors and competencies to be effective future leaders in the military health care system (Roberts, Crawford, & Orloff (1993; Texidor, Roberts, & Lamar, 1996; Department of the Army FM 22-103, 1987; Department of the Army FM 22-100, 1990; Nichols, 1974). The intent of the current study was to obtain a consensus of the behaviors and competencies needed for successful health care executives to perform in the future military health care system.

METHOD

Delphi Study Design.

Senior United States Army MSC leaders (colonels in pay grade O6) were selected from the 1996 Directory of Medical Service Corps officers. The population of 173 officers (117 Administrative and 56 Scientific/Technical series) was sent a questionnaire to select the behaviors felt most important to a young officer intent on enjoying a successful military career. Respondents were asked to select five from a list of 21 behaviors that had been identified in the literature review (Department of the Army FM 22-1 03, 1987; Department of the Army FM 22-100, 1990) and to list additional important competencies as write-in behaviors generated from the field.

Round 1 Delphi Issues: Content Analysis.

The responses from 121 respondents were analyzed. The initial list of 21 behaviors was rank ordered by frequency of responses. The additional field-generated write-in list was also content analyzed: the top 20 behaviors of the second field-generated list were established based on frequency of occurrence.

Round 2 Delphi: Questionnaire.

Feedback of the Round 1 results was provided to the population of 173 officers. A second 41-item questionnaire presented the behaviors felt most important for a successful military career. Respondents were asked to rate the 41 behaviors using a 7-point bipolar relative rating scale (1 = unimportant to 7 = most important). To assess possible order effects upon ratings, one half of the questionnaires contained the 21-behavior list (from the literature review) first, followed by the 20 field-generated behavior list. The second half of the questionnaires contained the lists in the opposite order. Demographic information (AOC series, gender, education, and work experiences) was collected from the surveys; time in grade and years of service were taken from the 1996 Directory of MSCs. The final prioritized list of behaviors was determined based on the magnitude of importance ratings.

RESULTS

Overview

Demographics were assessed for representativeness of the sample. The overall rankings of the behaviors were examined. Missing values (less than 1% of all responses) were replaced with series means for the variables.

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Analyses were conducted using the Statistical Package for Social Sciences (SPSS).

Sample Demographics.

In Round 1, 121 surveys were received, constituting a 70% return rate. The demographics were 81 Administrative and 40 Scientific/Technical AOCs.

In Round 2, 130 surveys were received (75% return). There were 87 Administrative AOCs and 43 Scientific/Technical AOCs. Demographics indicated 129 males, 1 female. Work experience (mean) reported was 7.5 years in TO&E (Field) and 10.8 years in TDA (Fixed) facilities. The age (mean) was 48.6 years.

Representativeness of Sample.

In Round 1, 121 surveys were received. In Round 2, 130 surveys were received. Comparisons between respondents and non-respondents (non-returns, retired) were made with respect to AOC, years of service, and time in grade as an O6. There were no significant differences between the distributions; the sample was representative of the population of Army MSC O6s.

Round 2 Literature Review vs. Field-generated items.

Total scores were computed for 21 Literature Review items, the 20 field-generated items, and all 41 items. Intercorrelations were computed among the lists (see Table 1) and indicated that there was a high degree of similarity in the content validity priority ratings among all lists ($\alpha = .75 - .94$). In addition, lists were also assessed for internal consistency with Cronbach's coefficient alpha. Results from these analyses reflected a high degree of rating reliability, indicating that the average ratings of separate and combined lists were stable and well-differentiated in terms of importance.

Average total scores were comparable between lists and between orders. A two-way factorial analysis of variance (ANOVA) was performed to test for any statistical trends across lists, across orders, and for any differential interactive effects. All three F-ratios failed to achieve significance, indicating the comparability of the two lists regardless of the order of presentation. These results were interpreted as evidence that all respondents completed their rating tasks with the same general level of motivation and attention to detail.

The initial list of 21 behaviors was rank-ordered by frequency of response during Round 1. Ratings from Round 2 were used to rank-order the 21 behaviors a second time. The test-retest reliability coefficient Spearman's rho = .90 ($p < .001$), indicating that the colonel Delphi panel assigned priorities to the behaviors in a consistent and reproducible manner.

Overall Rankings of Behaviors.

From the Round 2 responses, behaviors were rated for relative importance using the 7-point bipolar scale. Table 2 contains the 13 top rated behaviors (those rated 6.0 and higher on the 7-point scale of importance). Final behaviors were also correlated with total scores to assess content validity. As expected, all correlations were in the proper direction (positive) and were statistically significant ($p < .05$).

DISCUSSION

The behaviors rated as most important for career success include integrity, moral courage, responsibility, accountability, and competence-proficiency. A list of the top behaviors is included in Table 2. Half of the final items were field-generated and the initial items were from the literature review.

There was consensus on the most important behaviors for advancement. To have meaningful careers, MSC officers must behave with integrity, and be perceived as morally courageous, responsible, accountable, and competent. These are many of the characteristics recommended by previous authors. There is agreement about what behaviors are expected for MSC officers to have successful careers.

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Table 1. Reliability and Validity Coefficients for Literature Review and Field-generated Behavior Item Ratings

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Intercorrelations

<u>List</u>	<u>n</u>	<u>Lit Rev</u>	<u>Field-Gen</u>	<u>Total</u>	<u>Cronbach's Alpha</u>
Literature Review items	21	1.00	.75	.94	.84
Field-Generated items	20		1.00	.93	.86
Total	41			1.00	.91

Note: All correlations statistically significant, $p < .001$.

n = 130 respondents

**Table 2. Top Rated Behaviors Reported by Senior Army MSCs
(n=130)**

	<u>Behavior</u>	<u>Mean</u>	<u>Std. Dev.</u>	<u>Correlation with Total Score*</u>
#1	Integrity	6.87	.34	.18
2	Morally courageous	6.67	.64	.30
3	Responsible	6.56	.53	.46
#4	Accountable	6.55	.63	.45
5	Competent - proficient	6.45	.66	.28
6	Dedicated	6.33	.77	.52
#7	Committed	6.27	.96	.51
#8	Adaptable	6.12	.76	.48
#9	Seeks knowledge	6.05	.75	.51
#10	Team player	6.03	.92	.60
#11	Selfless	6.03	.94	.51
12	Flexible - versatile	6.02	.84	.45
13	Loyal - patriotic	6.02	1.00	.48

Notes: Missing values were replaced with series means for the variable. Ratings used a 7-point bipolar rating scale for relative importance where 1 = unimportant to 7 = most important

* All correlations statistically significant ($p < .001$) with the exception of integrity ($p < .05$).

Original data file item behaviors from literature review.



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